

REMARKS

A. Background

Claims 1, 3, 4, and 16-21 were pending in the application at the time of the Office Action. All of the pending claims 1, 3, 4 and 16-21 were rejected as being obvious over cited art. By this response applicant has amended claims 1 and 16. As such, claims 1, 3, 4, and 16-21 are presented for the Examiner's consideration in light of the following remarks.

B. Proposed Claim Amendments

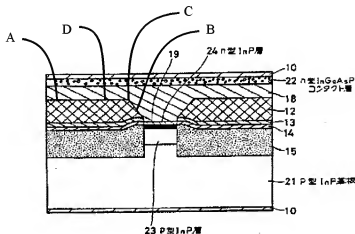
Applicant has herein amended the specification to remedy an error that occurred during translation of the specification into English from the original PCT specification during nationalization. Specifically, " $8 \times 10^{19} \text{ cm}^{-3}$ " was changed back to the original " $2 \times 10^{19} \text{ cm}^{-3}$ ".

Applicant has herein amended claims 1 and 16 to further clarify, more clearly define, and/or broaden the claimed inventions to expedite receiving a notice of allowance. Specifically, claims 1 and 16 have been amended to clarify that i) the over-cladding layer contacts the current-blocking layer at an upper surface that has a substantially level region disposed below the topmost height of the upper surface and above the height of the topmost layer of the stacked body, and ii) the layer thickness of the current-blocking layer is between 3 and 5 μm . The amendments to the claims are supported in the application at least by Figure 1F and paragraphs [0023], [0034], and [0035] of the specification. In view of the foregoing discussion, applicant submits that the amendments to the specification and claims do not introduce new matter and entry thereof is respectfully requested.

C. Rejection Based on 35 USC § 103

Pages 2-4 of the Office Action reject claims 1, 3, 4, and 16-21 under 35 USC §103(a) as being obvious over Japanese Publication No. 03-053582 to Takahiro et al. ("*Takahiro*") in view of U.S. Publication No. 2004/0057483 to Takemi et al. ("*Takemi*") and further in view of U.S. Publication No. 2002/0168856 to Iga et al. ("*Iga*"). In view of amendments made herein, Applicant respectfully traverses this rejection and submits that this rejection has been overcome because the allegedly obvious combination does not include all of the limitations recited in the rejected claims. Of the rejected claims, claims 1 and 16 are independent claims.

As shown in Figure 3 of Takahiro (reproduced below) and discussed in the partial English translation previously submitted by Applicant, *Takahiro* discloses a semiconductor laser having a mesa stripe (layers 23, 19, 24), as well as an Fe-doped high-resistance InP layer 12 acting as a current-blocking layer, both disposed over a Zn-doped p-type InP substrate 21. The current-blocking layer 12 is disclosed as being 1.2 μm thick. An over-cladding layer 18 is disposed over the mesa stripe and current-blocking layer 12. The over-cladding layer contacts the current-blocking layer at an upper surface (denoted by letter A in the Figure below) of the current-blocking layer 12.



第 3 図

As shown in the reproduced Figure 3, the upper surface A extends upward and outward from the upper surface of the mesa stripe at a substantially constant angle (denoted portion “B”) until the upper surface levels out at point C. The upper surface A thereafter remains a level plateau as the level portion of the surface (denoted portion “D”) extends further away from the mesa stripe on either side thereof. Applicant notes that the topmost height of the upper surface A of the current-blocking layer 12 occurs at the level plateau portion D, and that there are no other level regions of the upper surface A of the current-blocking layer 12 besides plateau portion D on either side of the mesa stripe.

Because the only level region of the upper surface A of the current-blocking layer 12 of *Takahiro* occurs at the topmost height of the upper surface A, Applicant respectfully submits that *Takahiro* does not disclose or suggest a stacked body and a current-blocking layer with an over-cladding layer disposed thereon, the upper surface of the current-blocking layer having “a substantially level region disposed below the topmost height of the upper surface and above the height of the topmost layer of said stacked body,” as recited in amended claims 1 and 16.

Furthermore, because the current-blocking layer 12 is disclosed as being only 1.2 μm thick, Applicant submits that *Takahiro* also does not disclose or suggest the “layer thickness of said current-blocking layer is between 3 and 5 μm ,” as also recited in amended claims 1 and 16.

Applicant further submits that the secondary art (*Takemi* and *Iga*) do not cure these deficiencies of *Takahiro*. That is, neither *Takemi* nor *Iga* teach or suggest a stacked body and a current-blocking layer with an over-cladding layer disposed thereon, the upper surface of the current-blocking layer having “a substantially level region disposed below the topmost height of the upper surface and above the height of the topmost layer of said stacked body,” and the “layer

thickness of said current-blocking layer is between 3 and 5 μm ."

In light of the above, even if, *arguendo*, *Takahiro*, *Takemi*, and *Igo* were combined in the allegedly obvious combination set forth in the Office Action, the resulting combination would not include all of the limitations of independent claims 1 and 16. As such, applicant respectfully submits that a *prima facie* case of obviousness has not been established regarding claims 1 and 16. Accordingly, applicant respectfully requests that the obviousness rejection with respect to claims 1 and 16 be withdrawn.

Claims 3, 4, and 17-21 depend from claims 1 and 16 and thus incorporate the limitations thereof. As such, applicant submits that claims 3, 4, and 17-21 are distinguished over the cited art for at least the same reasons as discussed above with regard to claims 1 and 16. Accordingly, Applicant respectfully requests that the obviousness rejection with respect to claims 3, 4, and 17-21 also be withdrawn.

No other objections or rejections are set forth in the Office Action.

D. Conclusion

Applicant notes that this response does not discuss every reason why the claims of the present application are distinguished over the cited art. Most notably, applicant submits that many if not all of the dependent claims are independently distinguishable over the cited art. Applicant has merely submitted those arguments which it considers sufficient to clearly distinguish the claims over the cited art.

In view of the foregoing, applicant respectfully requests the Examiner's reconsideration and allowance of claims 1, 3, 4, and 16-21 as amended and presented herein.

The Commissioner is hereby authorized to charge payment of any of the following fees

that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefor and charge any additional fees that may be required to Deposit Account No. 23-3178.

In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Dated this 1st day of May 2009.

Respectfully submitted,

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